IN THE CLAIMS

Please amend claims 2 and 6, and add claims 8 through 20, as follows:

1. (Original) A method for inspecting inferiority in shape of an object through an inspection image obtained from an inspection object, the object shape inferiority inspection method comprising the steps of:

preparing at least one reference image for judgment of shape inferiority in the inspection object considering an allowable error for shape;

obtaining the inspection image from the inspection object;

comparing grayscales for each one part, at least, of portions where the reference image and the inspection image mutually correspond; and

judging whether inferiority in shape of the inspection object exists, based on the result of the grayscale comparison.

2. (Currently Amended) The shape inferiority inspection method of claim 1, wherein said ~~grayscale~~ comparison step comprises making a comparison of brightness values of each corresponding pixel of the inspection image and the reference image.

3. (Original) The shape inferiority inspection method of claim 2, wherein said reference image preparation step comprises the sub-steps of:

obtaining a range of brightness for the pixel corresponding to a range of allowable error for

a position value on a boundary line, on the basis of a function relation with a change in brightness of the pixel according to a change in a position value on the boundary line of the inspection object; and

establishing and registering a minimum image whose brightness value is a minimum value of the brightness range and a maximum image whose brightness value is a maximum value of the brightness range, as the reference image.

4. (Original) The shape inferiority inspection method of claim 3, wherein said function relation considers existence of pixel noise.

5. (Original) The shape inferiority inspection method of claim 3, wherein said function relation is accomplished from addition of or subtraction of the pixel noise.

6. (Currently Amended) The shape inferiority inspection method of claim 2, wherein ~~the~~ a grayscale comparison operation for said ~~grayscale~~ comparison step is expressed as the following equation:

$$C(Q;U,L) = II[\, l(i,j) \le q(i,j) \le u(i,j)],$$

wherein:

C(Q;U,L) is a function for discriminating shape inferiority in an object, using the reference

images U and L, when the inspection image Q is given,

$l(i,j)$ is a brightness value of a pixel positioned at a coordinate (i,j) of the minimum image L,

$q(i,j)$ is a brightness value of a pixel positioned at a coordinate (i,j) of the inspection image Q, and

$u(i,j)$ is a brightness value of a pixel positioned at a coordinate (i,j) of the maximum image U.

7. (Original) The shape inferiority inspection method of claim 1, wherein said inspection image and said reference image are expressed in terms of grayscale.

8. (New) The method of claim 1, comprised of determining differences in unambiguous relative positions between the portions of the reference image and the corresponding inspection object in dependence upon the comparison.

9. (New) A method for inspecting objects, the method comprising the steps of:

preparing at least one reference image representing an allowable error for shape;

obtaining an inspection image from an inspected object;

in portions where the reference image and the inspection image mutually correspond, determining a location of an edge of the reference image relative to the inspection image by making a comparison of grayscale values for the portions;

making a determination, in dependence upon the comparison, of whether an inferiority in shape of the inspected object exists.

10. (New) The method of claim 9, wherein said comparison of grayscale values comprises making comparisons of brightness values of each corresponding pixel in the inspection image and the reference image.

11. (New) The method of claim 9, wherein preparation of said reference image comprises:

obtaining from a pixel representing the reference image, a range of brightness corresponding to a range of allowable error for a position value on a boundary line, on the basis of a functional relation between a change in brightness of the pixel and a change in a positional value on the boundary line of the inspection object; and

establishing and registering a minimum image exhibiting a brightness value corresponding to a minimum value on the brightness range and a maximum image exhibiting a brightness value corresponding to a maximum value on the brightness range, as the reference image.

12. (New) The method of claim 10, wherein said functional relation accommodates occurrence of pixel noise.

13. (New) The method of claim 10, wherein said functional relation is obtained by an

addition and subtraction of the pixel noise.

14. (New) The method of claim 9, wherein the comparison of grayscales is expressed as the following equation:

$$C(Q;U,L) = II[\, l(i,j) \le q(i,j) \le u(i,j)\,],$$

wherein *C(Q; U,L)* is a function for determining shape inferiority in an object, using the reference images *U* and *L*, when the inspection image *Q* is given,

l(i, j) is a brightness value of a pixel positioned at a coordinate *(i,j)* of the minimum image *L*,

q(i,j) is a brightness value of a pixel positioned at a coordinate *(i,j)* of the inspection image *Q*, and

u(i,j) is a brightness value of a pixel positioned at a coordinate *(i,j)* of the maximum image *U*.

15. (New) The method of claim 9, wherein said inspection image and said reference image are expressed in terms of grayscale.

16. (New) A method for inspecting objects, the method comprising the steps of:

preparing at least one reference image representing an allowable error for shape;

obtaining an inspection image from an inspected object;

making a comparison of grayscale values from a unidirectionally varying range of said

values, for each one part, at least, of portions where the reference image and the inspection image mutually correspond; and

making a determination, in dependence upon the comparison, of whether an inferiority in shape of the inspected object exists.

17. (New) The method of claim 16, wherein preparation of said reference image comprises:

obtaining from a pixel representing the reference image, a range of brightness corresponding to a range of allowable error for a position value on a boundary line, on the basis of a functional relation between a change in brightness of the pixel and a change in a positional value on the boundary line of the inspection object; and

establishing and registering a minimum image exhibiting a brightness value corresponding to a minimum value on the brightness range and a maximum image exhibiting a brightness value corresponding to a maximum value on the brightness range, as the reference image.

18. (New) The method of claim 17, wherein said functional relation accommodates occurrence of pixel noise, and said functional relation is obtained by an addition and subtraction of the pixel noise.

19. (New) The method of claim 16, wherein the comparison of grayscale values is expressed as the following equation:

$$C(Q;U,L) = II[\, l(i,j) \le q(i,j) \le u(i,j)\,],$$

wherein $C(Q; U,L)$ is a function for determining shape inferiority in an object, using the reference images U and L, when the inspection image Q is given,

$l(i, j)$ is a brightness value of a pixel positioned at a coordinate (i,j) of the minimum image L,

$q(i,j)$ is a brightness value of a pixel positioned at a coordinate (i,j) of the inspection image Q, and

$u(i,j)$ is a brightness value of a pixel positioned at a coordinate (i,j) of the maximum image U.

20. (New) The method of claim 16, wherein said inspection image and said reference image are expressed in terms of said grayscale values.